DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	LOON POND	Lake Area (ha):	49.05
Town:	GILMANTON	Maximum depth (m):	13.6
County:	Belknap	Mean depth (m):	7.0
River Basin:	Merrimack	Volume (m^3):	3436000
Latitude:	43°23'48" N	Relative depth:	1.7
Longitude:	71°22'53" W	Shore configuration:	1.25
Elevation (ft):	904	Areal water load (m/yr):	4.12
Shore length (m):	3100	Flushing rate (yr^{-1}):	0.60
Watershed area (ha):	440.3	P retention coeff.:	0.69
% watershed ponded:	0.0	Lake type:	natural w/dam

BIOLOGICAL:		27 January 1997	30 July 1996
DOM. PHYTOPLANKTON (% TOTAL)	#1	RHIZOSOLENIA 60%	RHIZOSOLENIA 85%
	#2	ASTERIONELLA 20%	
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			4.25
DOM. ZOOPLANKTON (% TOTAL)	#1	NAUPLIUS LARVA 31%	KERATELLA 19%
	#2	CALANOID COPEPOD 14%	CONOCHILUS 19%
	#3	LRG RND CILIATE SPP 14%	NAUPLIUS LARVA 14%
ROTIFERS/LITER		14	60
MICROCRUSTACEA/LITER		27	43
ZOOPLANKTON ABUNDANCE (#/L)		49	108
VASCULAR PLANT ABUNDANCE			Common
SECCHI DISK TRANSPARENCY (m)			5.0
BOTTOM DISSOLVED OXYGEN (mg/L)		8.5	2.2
BACTERIA (E. coli, #/100 ml)	#1		
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 6.0
Hypolimnion volume (m^3) : 453750
Anoxic volume (m^3) : None

CHEMICAL:

Lake: LOON POND
Town: GILMANTON

	27 January 1997		30 July 1996		
DEPTH (m)	4.0	9.0	2.5	7.0	11.5
pH (units)	6.4	6.2	6.9	6.4	6.0
A.N.C. (Alkalinity)	4.8	4.4	4.4	4.5	6.0
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.21	0.16	0.14	0.11	0.21
TOTAL PHOSPHORUS	0.014	0.008	0.008	0.033	0.013
CONDUCTIVITY (μmhos/cm)	74.1	75.0	75.3	76.1	79.4
APPARENT COLOR (cpu)	12	12	13	18	48
MAGNESIUM			0.77		
CALCIUM			2.8		
SODIUM			9.9		
POTASSIUM			0.64		
CHLORIDE	15	15	14		15
SULFATE	5	5	6		5
TN : TP	15	20	18		16
CALCITE SATURATION INDEX			3.3		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1996

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
2	2	3	1	8	Meso.

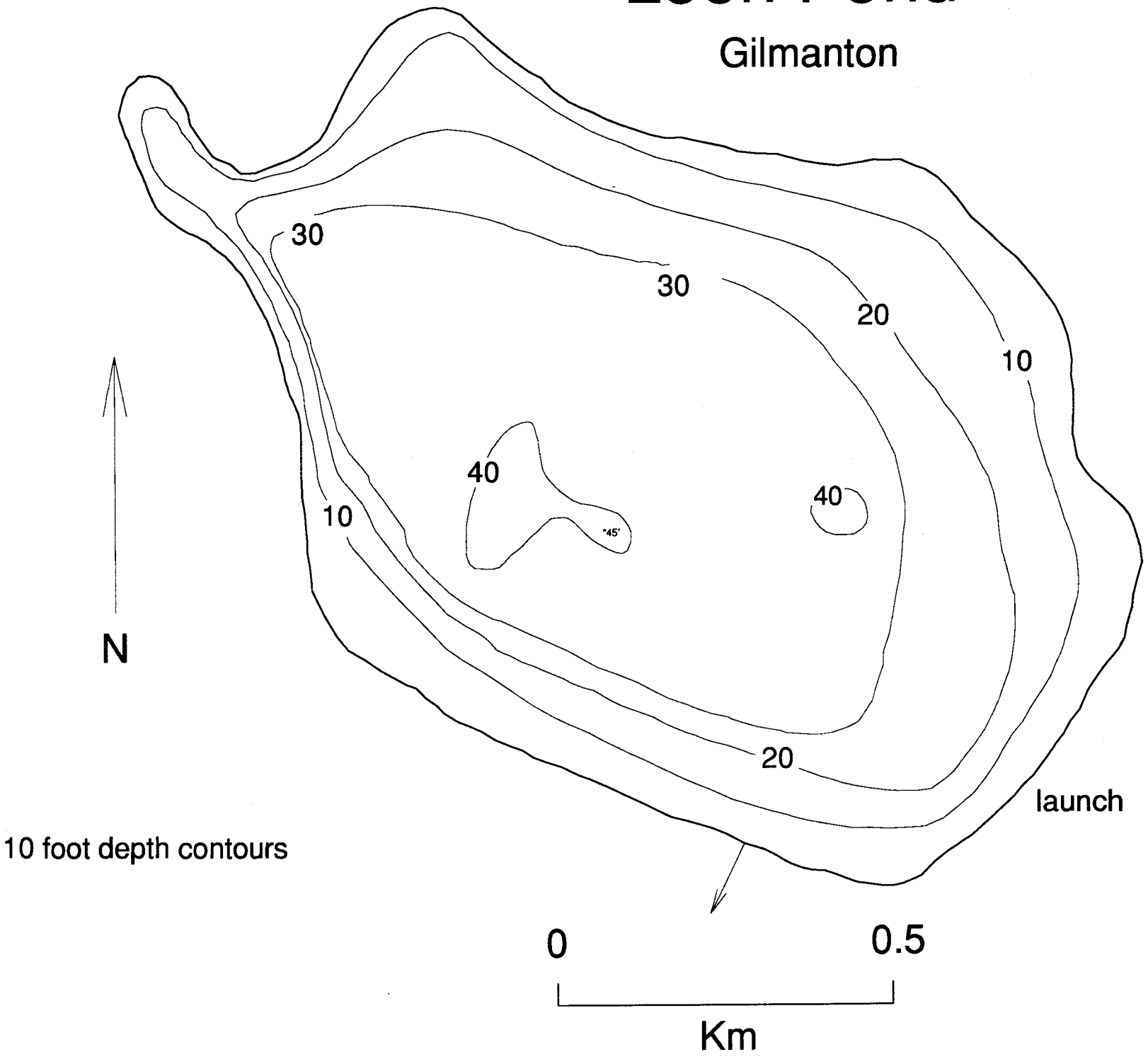
COMMENTS:

1. Loon Pond was previously surveyed and classified in 1980. There was no change in trophic classification and little change in water quality between the two dates, 16 years apart.

2. The outlet of Loon Pond has been sampled twice a year since 1983 as part of DES' acid rain trend monitoring program. The pH remained stable during the period; the alkalinity showed an slight increasing trend through 1995 but returned to earlier values in 1996 and 1997.

Loon Pond

Gilmanton



AQUATIC PLANT SURVEY

LAKE: LOON POND TOWN: GILMANTON DATE: 07/30/96

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
F	Nymphoides cordatum	Floating heart	Common
P	Pontederia cordata	Pickerelweed	Scattered
b	Scirpus	Bulrush	Scattered
d	Dulichium arundinaceum	Three-way sedge	Scattered
E	Eriocaulon septangulare	Pipewort	Scattered
G	Gramineae	Grass family	Scattered
J	Juncus	Rush	Scattered
Y	Nuphar	Yellow water lily	Scattered
S	Sparganium	Bur reed	Scattered
T	Typha	Cattail	Scattered

OVERALL ABUNDANCE: Common

GENERAL OBSERVATIONS:

1. A few more species were listed in the 1980 survey but the overall abundance was the same in both years.

Loon Pond

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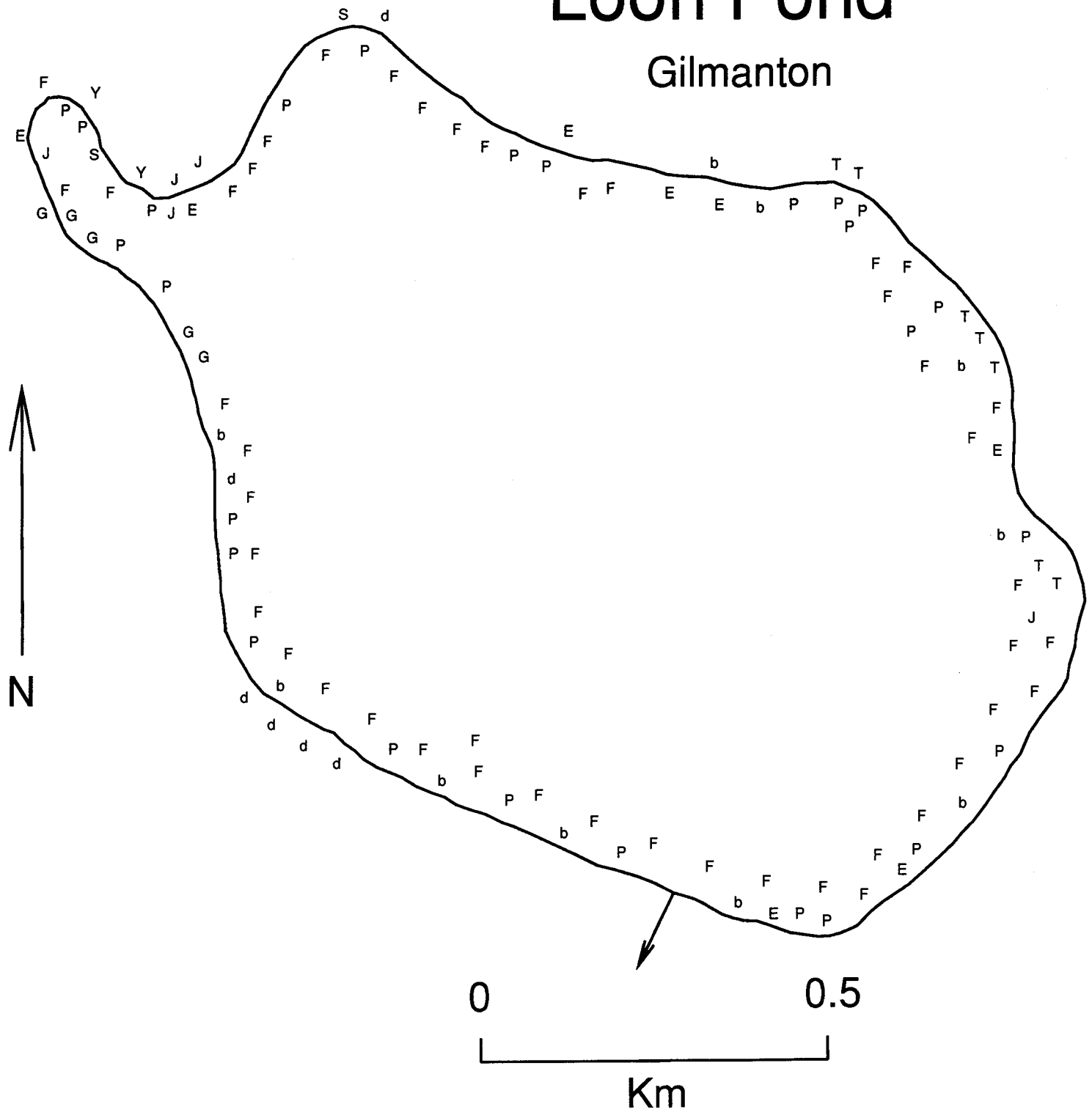

FIELD DATA SHEET

LAKE: LOON POND
DATE: 07/30/96

TOWN: GILMANTON
WEATHER: BREEZY, WARM

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	22.5	9.4	107 %
	1.0	22.2	9.4	107 %
	2.0	22.1	9.4	107 %
	3.0	22.0	9.2	105 %
	4.0	21.4	9.2	103 %
	5.0	21.2	9.0	101 %
	6.0	17.5	10.5	108 %
	7.0	13.2	10.1	96 %
	8.0	10.9	7.4	65 %
	9.0	9.5	4.6	39 %
	10.0	9.2	3.7	31 %
	11.0	9.0	2.8	23 %
	12.0	9.0	2.3	20 %
	13.0	9.0	2.3	19 %

SECCHI DISK (m): 5.0
BOTTOM DEPTH (m): 13.6
TIME: 1000

COMMENTS:

*Dissolved oxygen values are in mg/L